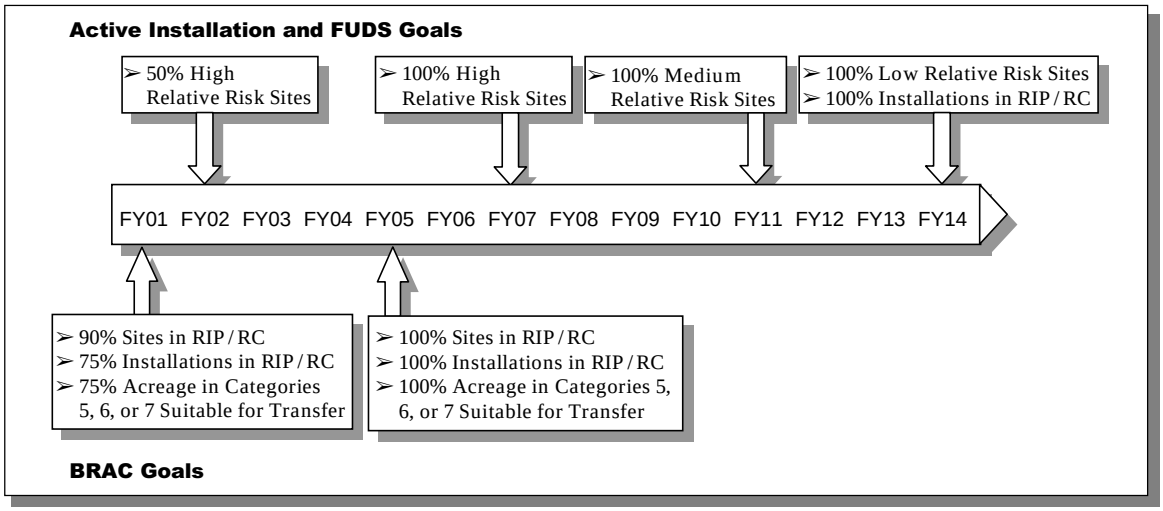
Program Status and Progress

Performance goals for the Environmental Restoration Program are given in DoD's overall program planning document, the Defense Planning Guidance. DoD uses measures of merit to ensure that the Components are effectively and efficiently budgeting for and executing their programs to achieve the DPG goals. DoD also uses these goals and metrics to ensure that the Department is doing the right thing and building trust with communities.

The DPG goals ensure that cleanup of all sites will be accomplished and that the sites with the greatest potential for causing harm to human health and the environment are addressed first (Figure 4). The specific DPG goals for active installations and FUDS properties are to clean up sites to a lower relative risk category (e.g., high relative risk to medium relative risk) and to have final remedies in place. The DPG goals for the active installations and FUDS properties are to reduce relative risk or achieve final remedy in place (RIP). The five goals are as follows:

- Active / FUDS 1—50 percent of high-relative-risk sites by the end of FY02
- Active / FUDS 2—100 percent of high-relative-risk sites by the end of FY07
- Active / FUDS 3—100 percent of medium-relative-risk sites by the end of FY11
- Active / FUDS 4—100 percent of low-relative-risk sites by the end of FY14
- Active / FUDS 5—100 percent of installations and sites with all remedies in place or response complete by the end of FY14.

Figure 4
Timeline of Defense Planning Guidance Goals



The DPG goals for BRAC installations focus on making property environmentally suitable for transfer, stressing fast and safe environmental restoration so that

communities can reuse the land and reap the economic and social benefits as soon as practicable. The DPG goals for the BRAC program are—

- BRAC 1—75 percent of the acres in Environmental Condition of Property Categories 5, 6, and 7 suitable for transfer by the end of FY01
- BRAC 2—90 percent of sites with remedy in place or response complete by the end of FY01
- BRAC 3—75 percent of installations with remedy in place or response complete by the end of FY01
- BRAC 4—100 percent of acres in Environmental Condition of Property Categories 5, 6, and 7 suitable for transfer by the end of FY05
- BRAC 5—100 percent of installations with remedy in place or response complete by the end of FY05.

Table 2
BRAC Property Categories

Category 1:	Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas)
Category 2:	Areas where only release or disposal of petroleum products has occurred
Category 3:	Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response
Category 4:	Areas where release, disposal, and/or migration of hazardous substances has occurred and DoD has taken all necessary removal or remedial actions to protect human health and the environment
Category 5:	Areas where release, disposal, and/or migration of hazardous substances has occurred and removal or remedial actions are under way, but where all required remedial actions have not yet been taken
Category 6:	Areas where release, disposal, and/or migration of hazardous substances has occurred but where DoD has not implemented the required actions
Category 7:	Areas where DoD has not completed evaluations or that require additional evaluation.

The first and fourth goals refer to seven categories that chart the environmental condition of BRAC property, as shown in Table 2.

OSD provides guidance on meeting these goals through the DERP Management Guidance.

WorldWideWeb
DERP Management Guidance
http://denix.cecer.army.mil/denix/Public/ES-Programs/Cleanup/DERP/guide.html

DoD Components plan, budget, and execute the program with the goals in mind. OSD oversees the Components' progress toward achieving the DPG goals through data collection and evaluation of performance metrics, especially measures of merit, and comparison of projected progress with actual progress. DoD reports the results of these assessments throughout this section and the Installation Narratives in Appendix A. This section describes how OSD and the Components measure Environmental Restoration Program effectiveness and how cleanup program activities were coordinated with FY98 funding.

Measuring Progress

Management of site inventory, performance measures, and reporting are essential to an accurate evaluation of the DERP. OSD has issued guidance on standardized requirements for information management systems for collecting data and creating information. DoD continues to emphasize the importance of maintaining a consistent, reliable record of past activities and performance, as well as having an accurate understanding of the current situation and making credible future projections. Tables 3 and 4 present a summary of DoD's installation, property, and site inventories in the Environmental Restoration Program.

Table 3
FY98 Installation Inventory Summary

Active Installations					
Army	**Navy**	**Air Force**	**DLA**	**DTRA**	**Active Installation Subtotal**
1,076	197	258	15	2	1,548
BRAC Installations					
Army	**Navy**	**Air Force**	**DLA**		**BRAC Installation Subtotal**
117	53	31	4		205
Active and BRAC Installation Subtotal					1,719*
FUDS Properties					9,158
Grand Total					10,877

*Because some installations have both active and BRAC activities, the total number of active and BRAC installations is less than the sum of the active and BRAC installation subtotals shown in this table.

Table 4
FY98 Site Inventory Summary

Active Sites					
Army	**Navy**	**Air Force**	**DLA**	**DTRA**	**Active Site Subtotal**
10,204	3,468	4,494	364	36	18,566
BRAC Sites					
Army	**Navy**	**Air Force**	**DLA**		**BRAC Site Subtotal**
1,944	1,004	1,544	288		4,780
Active and BRAC Site Subtotal					23,346
FUDS Sites					4,184
Grand Total					27,530

Measures of Merit

Measures of Merit (MOMs) are the primary tool for measuring and reporting progress toward DPG goals. As performance metrics, they provide a consistent benchmark for reporting on and evaluating the program. MOMs fall into the following categories:

- Active installation, FUDS, and BRAC relative risk reduction shows the number of sites in each relative risk category for each fiscal year and indicates progress toward the DPG relative risk reduction goals.
- Active installation, FUDS, and BRAC phase progress shows the number of sites in the investigation, cleanup, and response complete/no-further-action-required phases and indicates progress toward the program goal of cleanup and site closeout.
- Active installation, FUDS, and BRAC Remedy in Place/Response Complete shows the number of installations that have all sites in the remedy in place (RIP) or response complete category and indicates progress toward the DPG goal of attaining final RIP or RC status at all sites and installations.
- Environmental Condition of BRAC Property shows the number of acres considered environmentally suitable or unsuitable for transfer and indicates progress toward the DPG goal of having all acres suitable for transfer.

In FY98, DoD tracked its environmental restoration progress using the MOMs described above. The discussion below presents the status of each MOM as of September 30, 1998.

Relative Risk Reduction

Relative risk reduction is DoD's method of ensuring that the primary focus of the program is on protection of human health and the environment. The reduction in the number of sites in each relative risk site evaluation category (i.e., high, medium, and low relative risk, and not evaluated) is used to measure the overall risk reduction and progress toward the DPG goals. Tables 5 and 6 show the number of sites in each relative risk category for each Component. In general, the number of sites that have reached the response complete milestone has increased from FY97, an indicator that more sites are reaching the final stages of the cleanup process. Another indicator of progress is the 27 percent reduction in the number of sites in the Not Evaluated category from FY97 to FY98. The evaluation of these sites caused the number of sites in some of the other relative risk categories to increase. Although the DPG goals specify reduction in the number of sites in the high-, medium-, and low-relative-risk categories, completing evaluations of all potential sites is essential to producing an accurate estimate of the effort required to ensure the protection of human health and the environment.

Figure 5 shows the percentage of the total sites planned for cleanup over the next 6 years that are in each relative risk category. Figure 6 shows the funding planned for these sites. Forty-five percent of sites planned for cleanup activities over the next 6 years are in the high-relative-risk category; these sites are projected to receive 62 percent of available funding, clearly demonstrating DoD's focus on high-relative-risk sites.

Table 5
End of FY98 Active Installation and FUDS Relative Risk Site Evaluation Status

		DoD Component						
		Army	Navy	Air Force	DLA	DTRA	FUDS	ER Total
Sites with Response Complete		7,961	1,570	2,268	279	2	1,885	13,965
Relative Risk of Sites in Progress	High	1,013	748	735	20	0	216	2,732
	Medium	536	440	440	7	0	83	1,506
	Low	602	389	618	13	0	41	1,663
	Not Evaluated	26	153	72	30	25	773	1,079
	Not Required*	66	168	361	15	9	1,186	1,805
Total Number of Sites		**10,204**	**3,468**	**4,494**	**364**	**36**	**4,184**	**22,750**

* Sites that have Remedy in Place, Response Complete, or no-further-action-required designations do not require relative risk evaluation, because DoD has committed to funding Remedial Action Operations and LTM requirements at these sites. In addition, Relative Risk Site Evaluations are not required at sites that exclusively address UXO, BD/DR, or PRP requirements.

Table 6
End of FY98 BRAC Relative Risk Site Evaluation Status

		DoD Component				
		Army	Navy	Air Force	DLA	BRAC Total
Sites with Response Complete		1,032	402	458	146	2,038
Relative Risk of Sites in Progress	High	217	240	223	24	704
	Medium	153	152	146	31	482
	Low	240	127	228	26	621
	Not Evaluated	290	47	394	58	789
	Not Required*	12	36	95	3	146
Total Number of Sites		**1,944**	**1,004**	**1,544**	**288**	**4,780**

* Sites that have Remedy in Place, Response Complete, or no-further-action-required designations do not require relative risk evaluation, because DoD has committed to funding Remedial Action Operations and LTM requirements at these sites.

Sites Planned for Cleanup Funding by Relative Risk Ranking FY99 through FY05

Figure 5
Percentage of Sites Planned

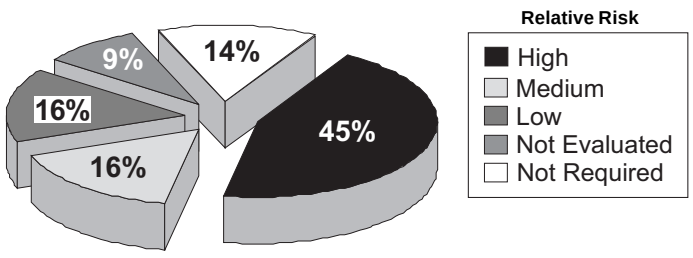
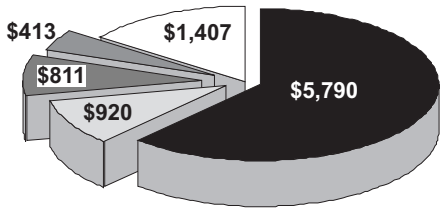


Figure 6
Planned Funding ($ Million)

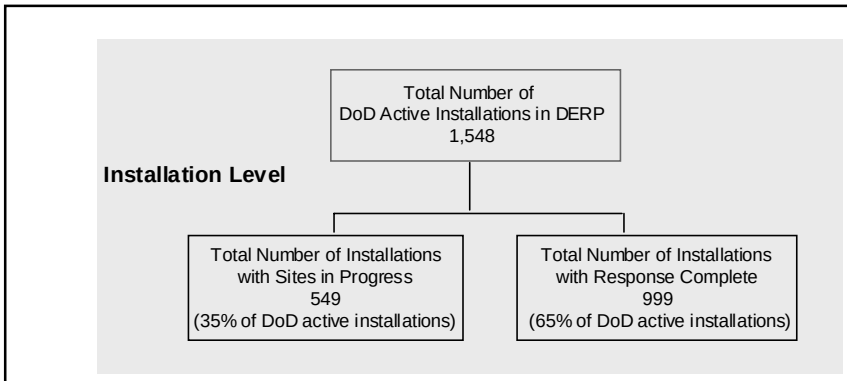


Phase Progress

Accurate measurement of progress, identification of issues, and analysis of trends are critical to successful, cost-effective DERP implementation and to accomplishment of reliable planning, programming, budgeting, and oversight.

OSD and the Components carefully track the number of sites in each phase (i.e., investigation, cleanup, and response complete) of the cleanup process. Interim actions can occur at any time in the cleanup process. Figures 7 and 8 display the status of all DoD's active and BRAC installations, respectively, and Figure 9 shows the status of all

Figure 7
FY98 Status of Active Installations



Phase Activities at DoD Active Installations

Phase	Completed	Under Way	Future
	Sites		
Investigation*	13,955	4,128	483
Interim Action**	1,807 (2,448)***	656 (843)***	
Design	1,207	353	2,657
RA-C	1,837	583	3,215
RA-O	105	404	1,624
LTM	203	788	2,104

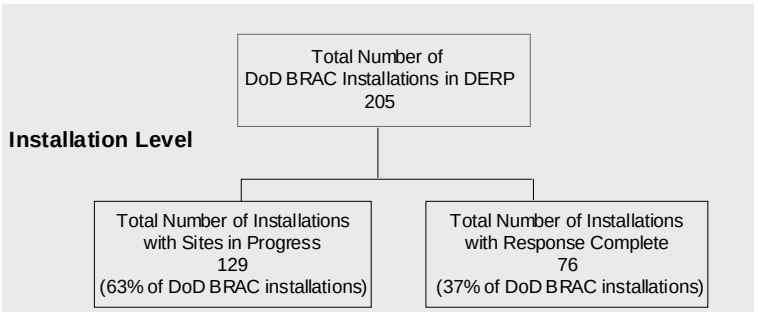
Phase Level

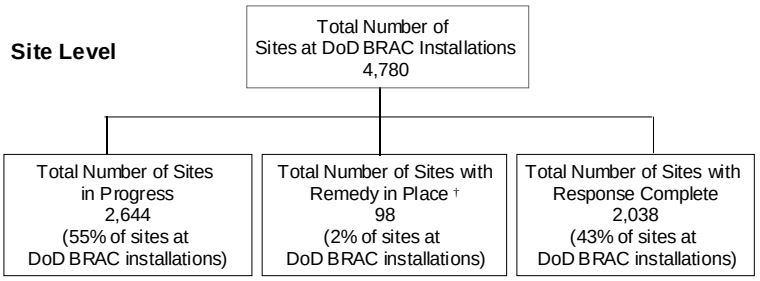
† RIP is a subset of Sites in Progress.
* The sum of the number of sites in Investigation Completed, Under Way, and Future equals the total number of sites in the program.
** Interim Actions can occur throughout the process.
*** Number of Interim Actions.

Refer to the Glossary in Appendix G for definitions of terms.

FUDS properties, as of September 30, 1998. Sixty-five percent of active and 37 percent of BRAC installations, and 65 percent of active installation sites and 43 percent of BRAC sites, have reached the response complete milestone. Of the 9,158 potential FUDS properties, 64 percent require no action. Of the 36 percent that require response action or further evaluation, 45 percent have reached the response complete milestone, an increase of 6 percent from the end of FY97. Overall, more than half of the installations and sites in the Environmental Restoration Program have reached the final stage in the cleanup process. DoD is meeting its short-term goals and plans to meet DPG goals but must surmount some significant challenges in the process.

Figure 8
FY98 Status of BRAC Installations





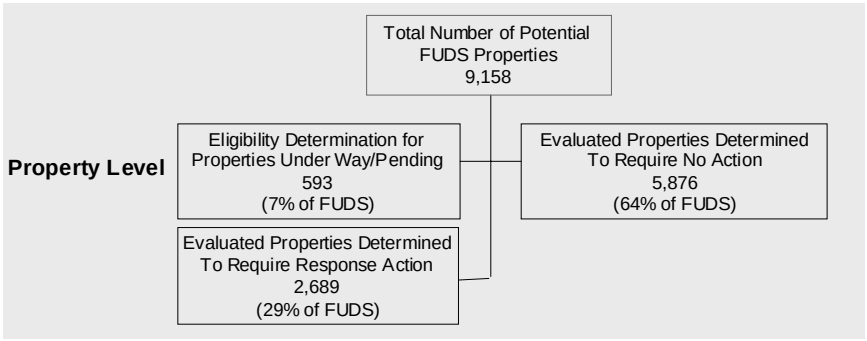
Phase Activities at DoD BRAC Installations

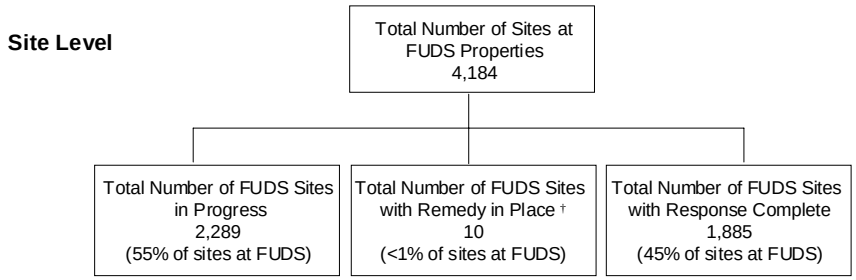
Phase	Completed Sites	Under Way Sites	Future Sites
Phase Level			
Investigation*	3,059	1,714	7
Interim Action**	855 (1,073)***	436 (535)***	
Design	493	205	1,072
RA-C	557	272	1,452
RA-O	21	98	761
LTM	21	130	783

† RIP is a subset of Sites in Progress.
* The sum of the number of sites in Investigation Completed, Under Way, and Future equals the total number of sites in the program.
** Interim Actions can occur throughout the process.
*** Number of Interim Actions.

Refer to the Glossary in Appendix G for definitions of terms.

Figure 9
FY98 Status of Formerly Used Defense Site Properties





Phase Activities at Formerly Used Defense Sites

Phase Level

Phase	Completed	Under Way	Future
	Sites		
Investigation*	2,685	622	877
Interim Action**	125 (125)***	30 (30)***	
Design	983	186	1,258
RA-C	880	343	1,429
RA-O	5	14	199
LTM	10	21	233

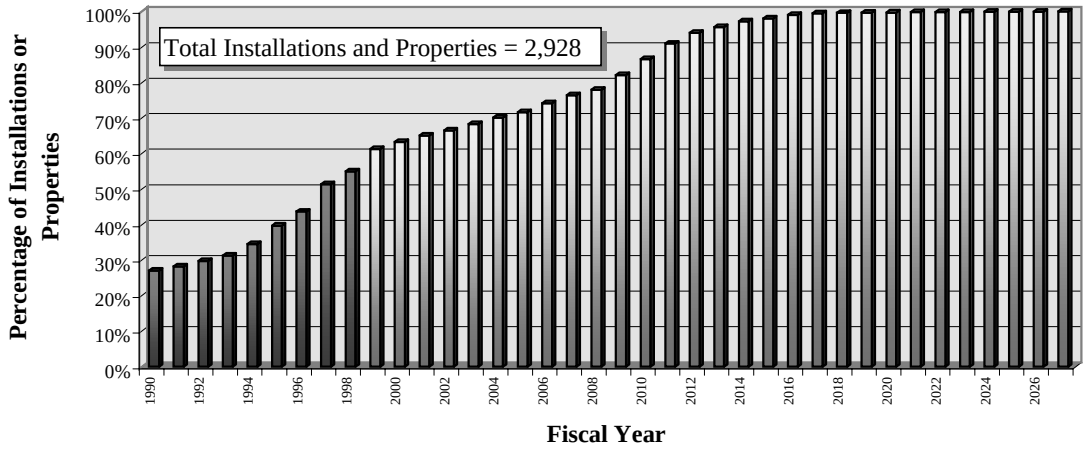
† RIP is a subset of Sites in Progress; does not include 146 PRP, OEW, and BD/DR projects where cleanup activity is under way.
* The sum of the number of sites in Investigation Completed, Under Way, and Future equals the total number of sites in the program.
** Interim Actions can occur throughout the process.
*** Number of Interim Actions.

Note: "Site" at a FUDS property means a cleanup project.
Refer to the Glossary in Appendix G for definitions of terms.

Installations with All Remedies in Place or Response Complete

DoD's remedy in place and response complete measures represent significant achievements in the DoD Environmental Restoration Program. When the last contaminated site at an installation attains either RIP or RC, the entire installation or property is classified as RIP or RC. The end of the remedial action construction phase and the start of the remedial action operation phase defines the RIP milestone. Figures 10 and 11 show the progress that DoD installations and FUDS properties have made through FY98, as well as projections of when DoD installations and FUDS properties will reach the RIP or RC stage of cleanup. Figure 10 shows accomplishments and projections for active installations and FUDS properties; Figure 11 shows BRAC installation status. At the end of FY98, 55 percent of active installations and FUDS properties and 40 percent of BRAC installations had all remedies in place or had reached response complete. This means that DoD has completed cleanup activities, with the possible exception of remedial action-operations and long-term monitoring, at more than half of its installations.

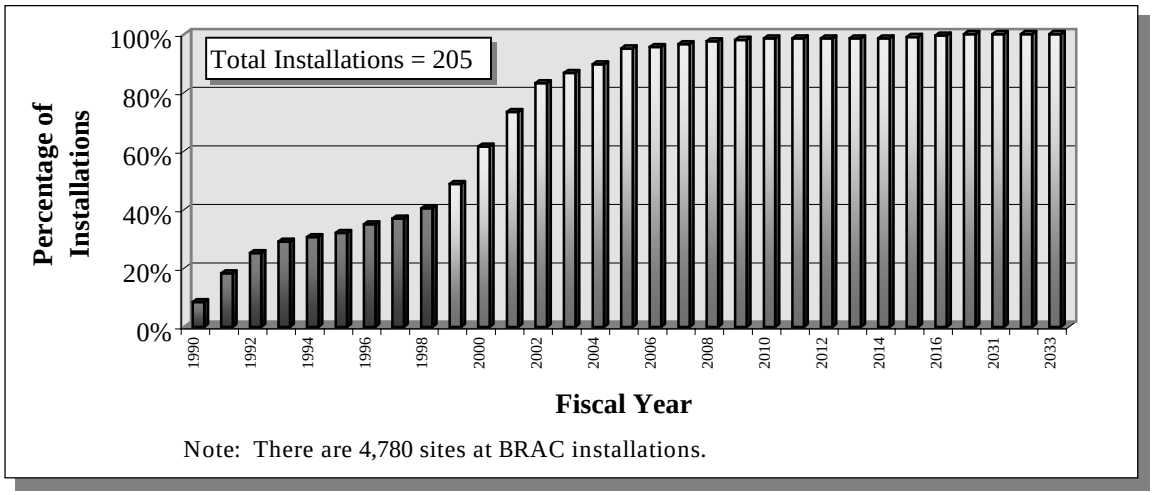
Figure 10
DoD Active Installations and FUDS Properties*
Achieving Final Remedy in Place or Response Complete
(cumulative FY90 through completion)



Note: There are 22,750 sites at active installations and FUDS properties.

* Does not include FUDS properties that only have BD/DR, unexploded ordnance (UXO), or potentially responsible party (PRP) requirements.

Figure 11
DoD BRAC Installations Achieving Final Remedy in Place or Response Complete (cumulative FY90 through completion)

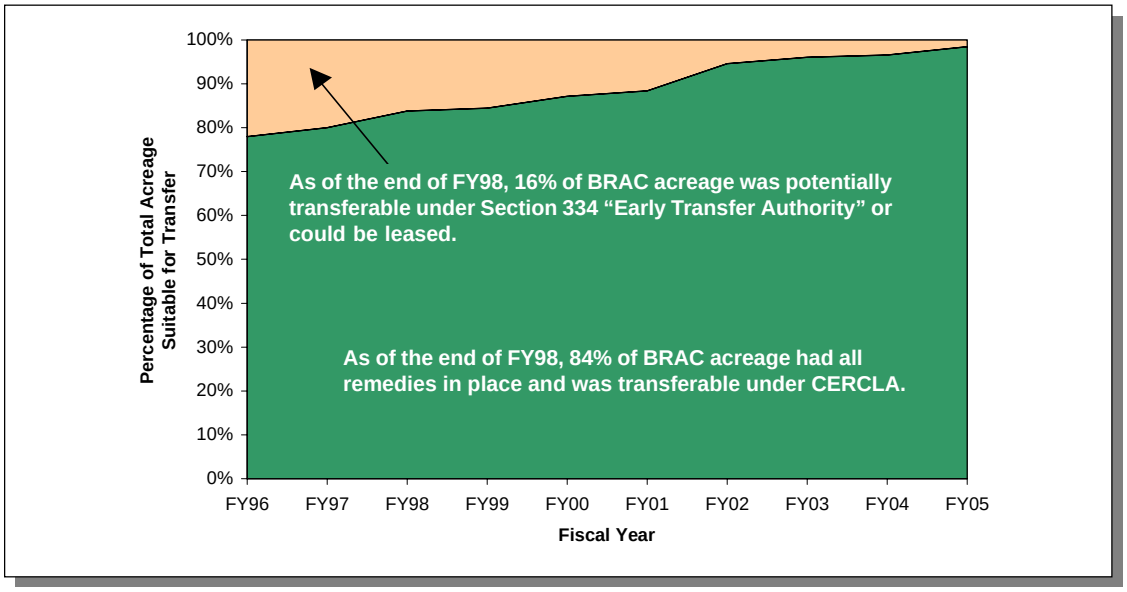


Note: There are 4,780 sites at BRAC installations.

Environmental Condition of BRAC Property

The main drivers of the BRAC environmental restoration process are to quickly and safely clean up sites and to facilitate communities' economic reuse and development by making property suitable for reuse. The number of acres suitable for transfer is expected to increase until FY05 when the DPG requires that all property in the current four BRAC rounds (1988, 1992, 1993, and 1995) be suitable for transfer. Current projections, however, indicate that 98 percent of BRAC property will be suitable for transfer by the end of FY05. At the end of FY98, 84 percent of the total BRAC acreage was environmentally suitable for transfer. DoD will not quite achieve the final acreage goal but is already exceeding the interim goal. Management attention over the next year will focus on expediting the schedule. Figure 12 shows the percentages of BRAC acreage suitable for transfer for FY98 through FY05.

Figure 12
Projected Status of BRAC Property



A change to CERCLA §120(h) known as the early transfer authority allows stakeholders to gain greater control over the future of BRAC property and their communities. In 1996 Congress passed an amendment to CERCLA §120(h) that allows full ownership of property before cleanup has been completed; therefore, it is not necessary for all cleanup activities to be completed for BRAC property to be transferred. Early transfer authority is a valuable tool for helping communities take control of their future. Early transfer is a relatively new process (it was first implemented by DoD in 1997) and has made a good start with five early transfers implemented to date. DoD expects many more early transfers in the future as it shares lessons learned and refines the process.

Other Metrics of Program Progress

In addition to the measures of merit, DoD uses program management indicators (PMIs) to gauge progress in cleanup activities. The following PMIs focus on site-level progress through selected milestones. The section below presents the status of site inventory as of September 30, 1998, including the number of sites that have implemented an interim action, the number of sites in progress, and the number of sites that have all remedies in place or have reached response complete. These PMIs apply to active installations, FUDS properties, and BRAC installations.

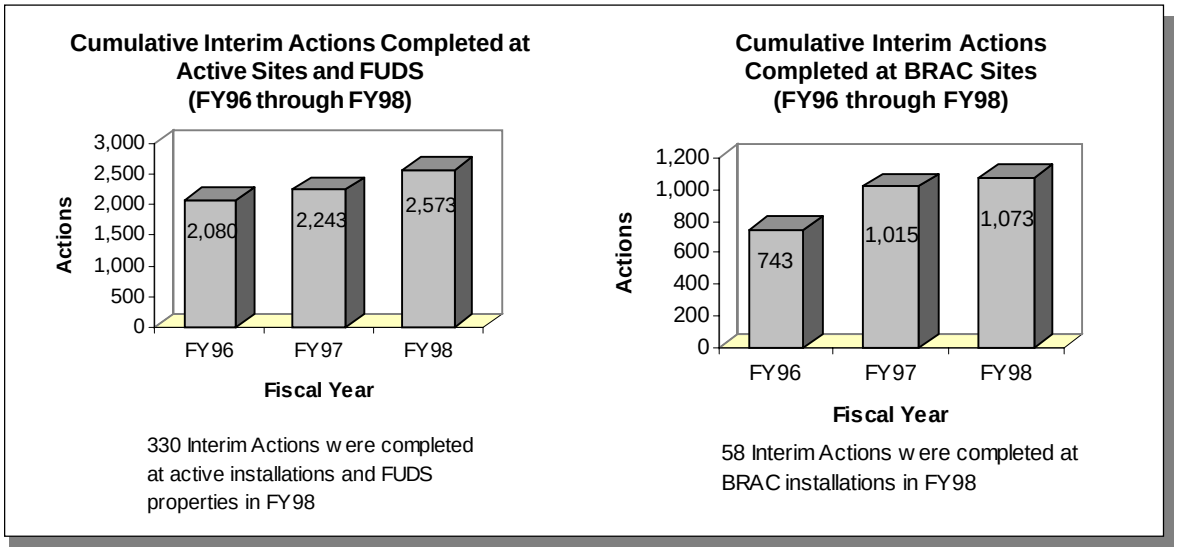
Interim Actions Completed

Interim actions are early measures that reduce the risk posed by the release of hazardous substances before the completion of final cleanup remedies. For example, placing fences around contaminated areas and removing, treating, or disposing of contaminated soil can be interim actions. These interim actions reduce risk by eliminating a contamination pathway. In many cases, the interim action becomes the final remedy after further study shows that there is no more risk to human health or the environment. Figure 13 shows the number of interim actions completed through FY98 for active and BRAC installation sites and for FUDS. As of September 30, 1998, the DoD cleanup program had completed 3,646 interim actions at 2,787 sites. The list below shows the number of interim actions completed at active installation sites, FUDS, and BRAC sites.

- 2,448 interim actions at 1,807 active installation sites
- 125 interim actions at 125 FUDS
- 1,073 interim actions at 855 BRAC sites.

In some cases, a site can achieve the RIP or RC milestone as a direct result of an interim action. When this occurs, the site does not need to go through the other steps in the cleanup process. Through September 30, 1998, 214 sites had achieved RIP or RC directly after implementing an interim action.

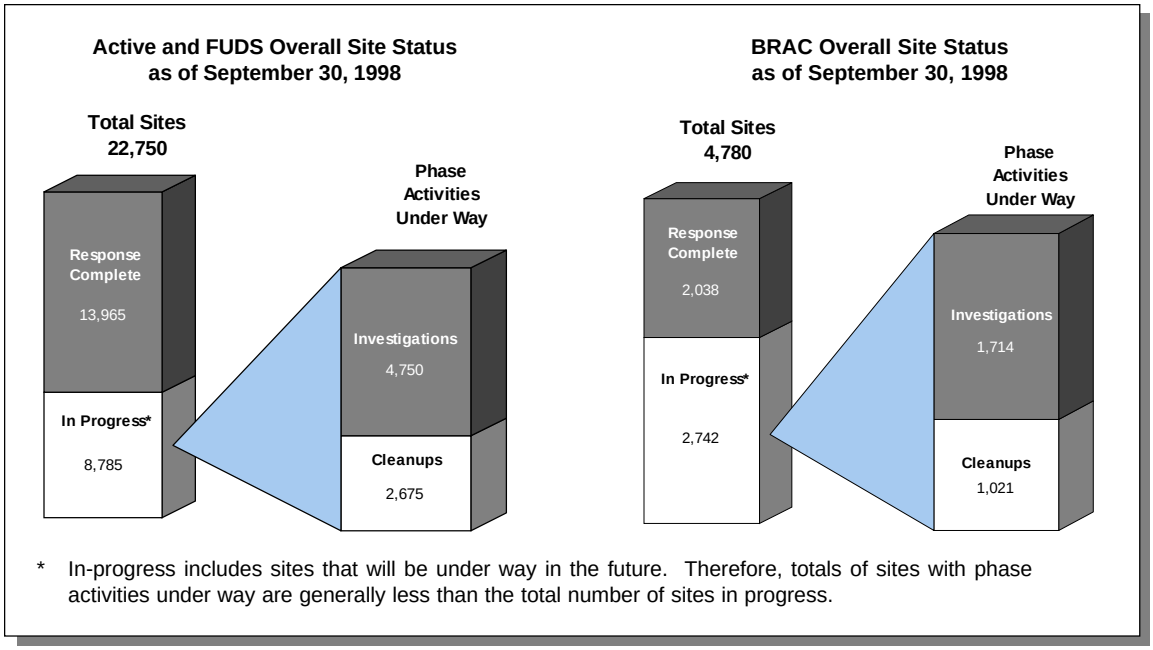
Figure 13



Sites in Progress

DoD defines sites in progress as the number of sites that have not yet reached RC. This PMI designates where the site is in the Environmental Restoration process shown in Figure 1. This measure supplements the phase progress MOM, described earlier, which measures the number of sites that have completed each phase. There are now 9,228 sites in progress at 1,719 active and BRAC DoD installations and 2,299 sites in progress at 9,158 FUDS properties (Figure 14). There are fewer sites in progress in FY98 than in FY97. However, in the active and FUDS and BRAC sites in progress category, there are more sites in the cleanup phase than there were in FY97, and fewer sites in the investigation phase.

Figure 14



* In-progress includes sites that will be under way in the future. Therefore, totals of sites with phase activities under way are generally less than the total number of sites in progress.

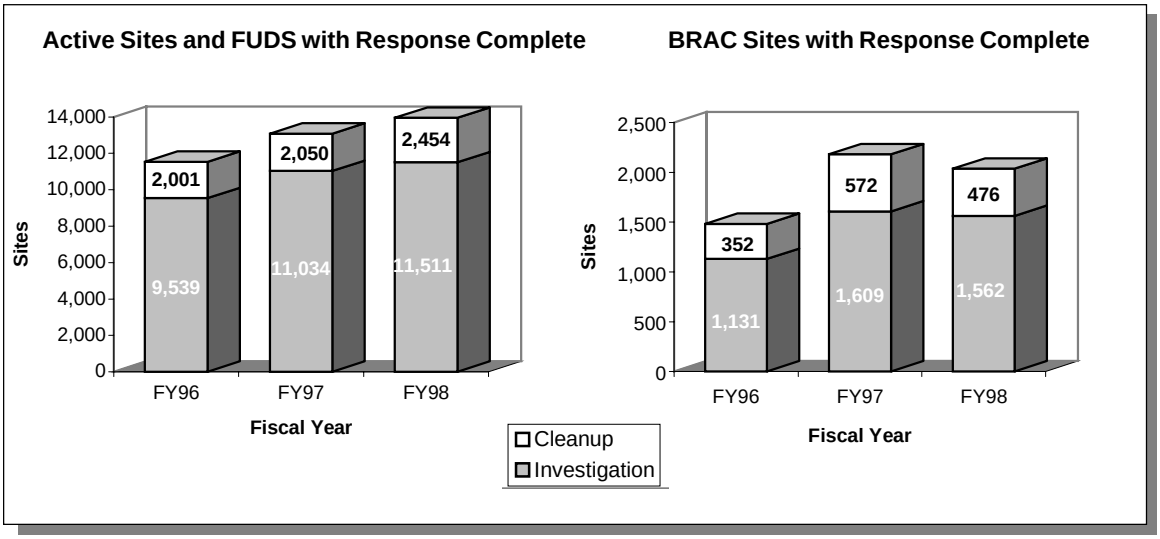
Sites with Remedies in Place or Response Complete

This PMI is similar to the third measure of merit. The MOM counts the number of installations at RIP or RC, whereas this PMI examines the number of sites that have attained these milestones. Completion of remedy construction and the start of operation of the remedy define the RIP milestone. The RIP designation is similar to placement on EPA's construction completion list for National Priorities List (NPL) sites. A site qualifies for the construction completion list when all necessary physical construction of the remedy has been completed, EPA has determined that no construction is required for implementing the remedy, or the site qualifies for deletion from the NPL.

DoD counts a site as RC after the Component determines that the site meets the remedial objectives required in the remedy decision document. Many sites are determined to be RC as a result of investigation's showing no need for further response actions. If a site requires further monitoring after the response is complete, the site may proceed to the long-term monitoring phase before eventual site closeout. A site reaches the RC milestone at completion of the remedial action operations phase. If no remedial action operations are required, a site can achieve the RC milestone at the end of remedial action construction.

Of the 27,530 total sites at DoD active installations, FUDS properties, and BRAC installations, 58 percent are response complete (Figures 7, 8, and 15). Since the end of FY97, the number of sites with remedies in place has increased by 111, bringing the total to 691 sites (Figures 7 and 8). DoD classified approximately two-thirds of the sites in the response complete category as RC directly from an investigation phase because no cleanup activities were required (Figure 15). This indicates that most sites required no cleanup activities to meet the regulatory requirements.

Figure 15

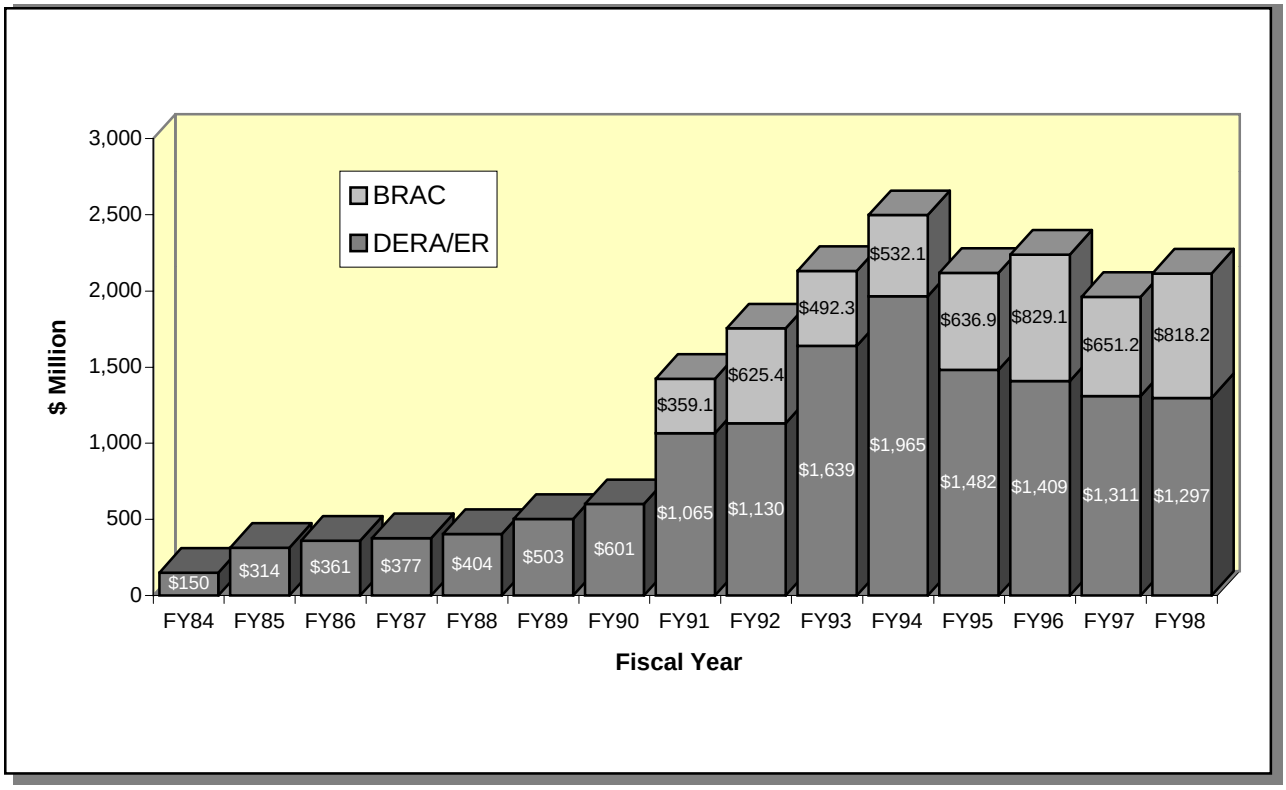


Program Funding

As DoD has become more knowledgeable about the extent and type of challenges the environmental restoration program faces, its planning and funding estimates have become more reliable. This capability, along with stable funding, has allowed DoD to plan more efficiently and to concentrate on fulfilling its commitment to protecting human health and the environment by completing the Environmental Restoration Program. This section presents the Environmental Restoration Program's past and current funding status and progress.

Through the end of FY98, DoD had invested almost $19 billion in the program: $14 billion and $5 billion for DERA / ER (active installations and FUDS) and BRAC (closure installations) accounts, respectively (Figure 16). In FY98, Congress appropriated almost $1.3 billion for Environmental Restoration accounts and $818.2 million for BRAC accounts. The funding for the BRAC environmental program is part of the overall BRAC account and encompasses more than environmental restoration efforts. BRAC environmental funding also addresses closure-related compliance and environmental planning activities. Funding for active installations and FUDS activities decreased slightly in FY98; BRAC funding increased almost 20 percent from FY97 levels.

Figure 16
Funding History



ER (Active Installations and FUDS) Account Status

Funding is expected to be relatively stable over the next 3 years, as indicated by the DERA/ER funding trend shown in Figure 17. Figures 18 and 19 show actual and planned program obligations for program support, investigation, and cleanup. In FY98, funding for site investigations increased, reflecting regulatory requirements for more investigation, Component desires to accomplish work at low and medium risk

Figure 17
DERA/ER Funding Trend

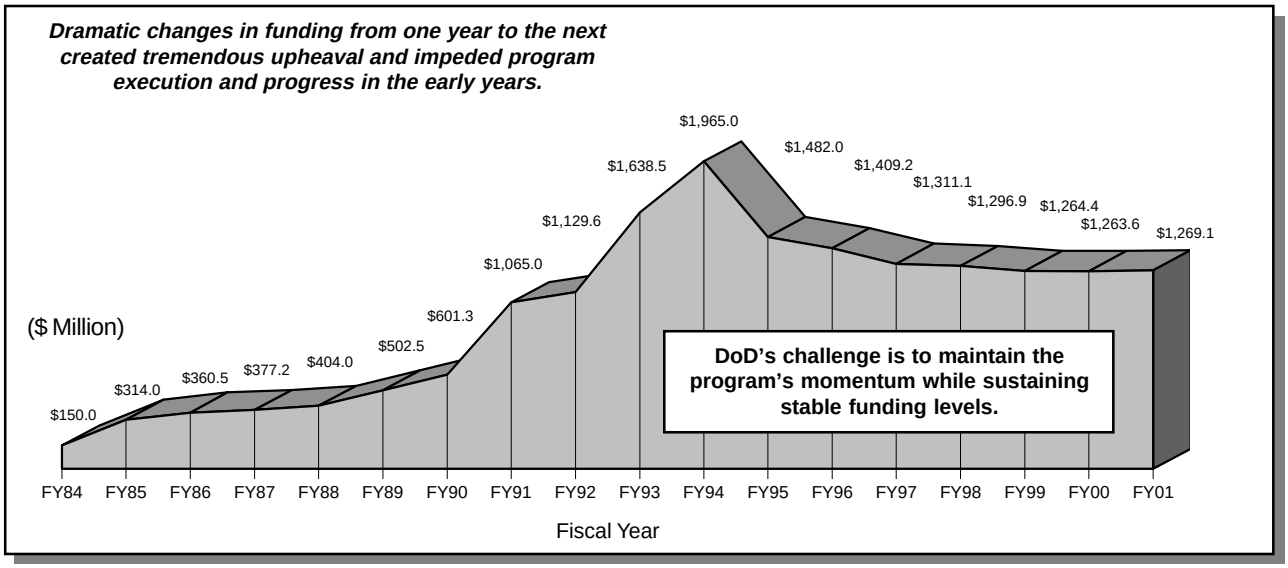
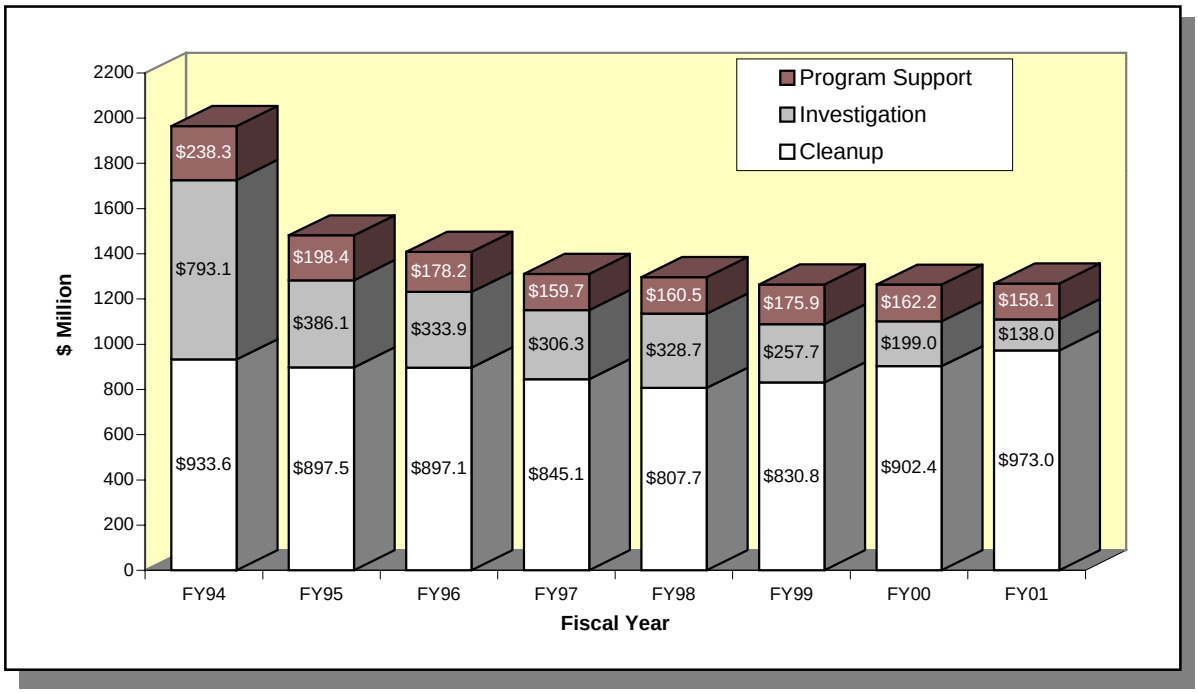


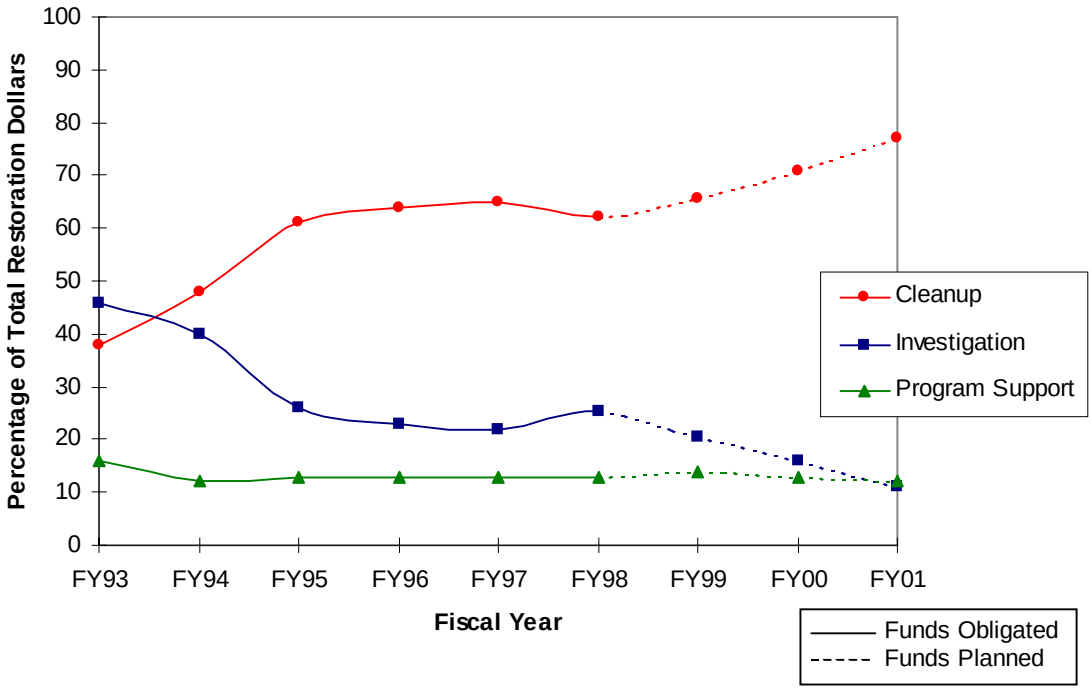
Figure 18
DERA/ER Funding Profile



installation sites to facilitate completing the installation's program in a holistic manner. Funding for cleanup decreased in FY98 as a result of increased investigation but still constitutes almost two-thirds of program funding. Funding for cleanup is projected to increase in future years as more of the investigated sites enter the more costly cleanup phase. In FY98, program support funding levels remained relatively stable.

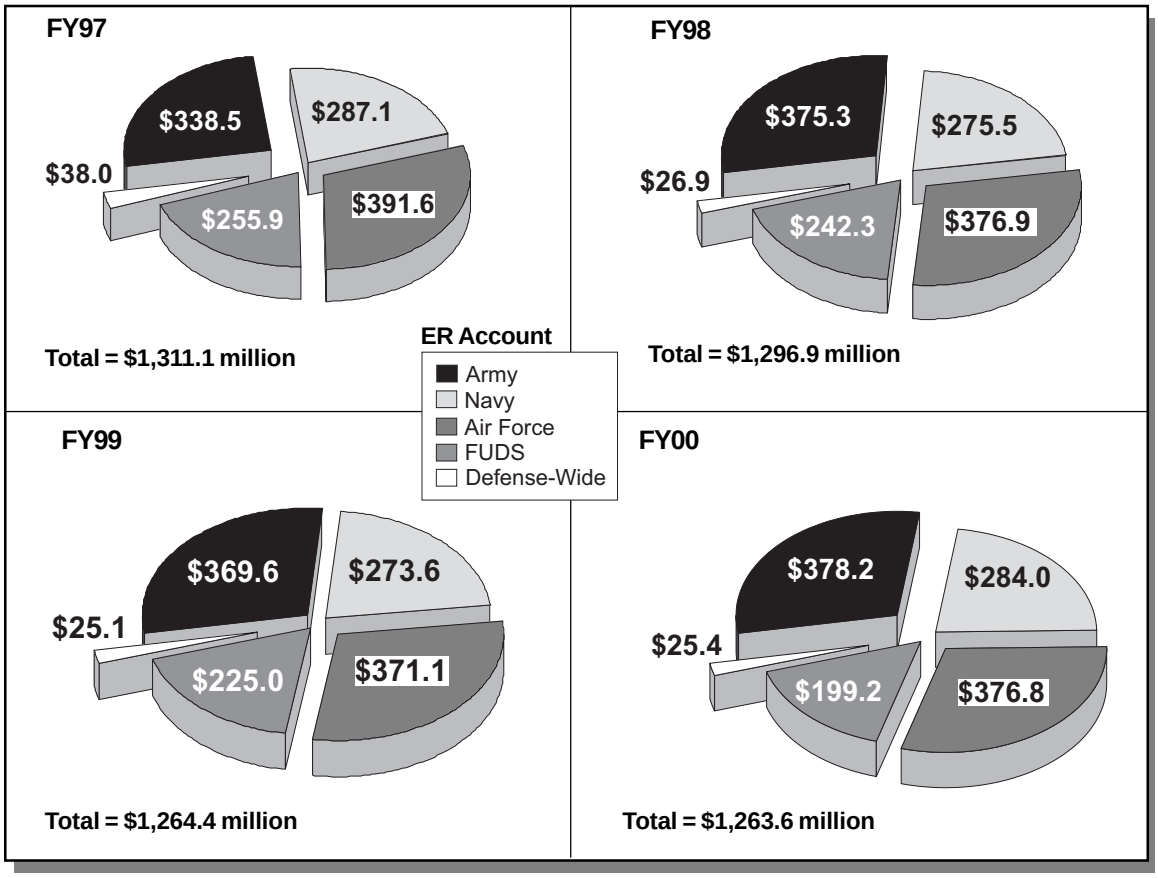
The funding profile in Figure 20 shows the actual and estimated funding levels for OSD and the Components in FY97, FY98, FY99, and FY00. For FY98, Congress appropriated $375.3 million for ER, Army; $275.5 million for ER, Navy; $376.9 million for ER, Air Force; $242.3 million for ER, FUDS; and $26.9 million for ER, Defense-Wide, which is predominantly DLA.

Figure 19
DERA/ER Cleanup, Investigation, and Program Support Obligations and Planning Estimates



Category	Millions of Funding Dollars Obligated/Planned (% of Total Obligated/Planned Funds) FY96	FY97	FY98	FY99	FY00	FY01
Studies & Investigations	$334 (24)	$306 (23)	$329 (25)	$258 (20)	$199 (16)	$138 (11)
Program Support	$178 (13)	$160 (12)	$161 (13)	$176 (14)	$162 (13)	$158 (12)
Total Non-Cleanup Funds	$512 (36)	$466 (35)	$489 (38)	$434 (34)	$361 (29)	$296 (23)
Cleanup	$897 (64)	$845 (65)	$807 (62)	$831 (66)	$902 (71)	$973 (77)
TOTAL DERA/ER FUNDING	**$1,409**	**$1,311**	**$1,297**	**$1,264**	**$1,264**	**$1,269**

Figure 20
Environmental Restoration Funding Profile for OSD and Components
(in millions of dollars)



Long-Term Projections—Active Installations and FUDS

Extensive up-front planning and continuous dialogue with stakeholders form the basis of DoD's strategy for continuing a strong cleanup program. This section identifies the cost-to-complete estimate requirements for each relative risk category and program phase.

Tables 7 and 8 show the estimated cost to complete the program, by relative risk category, for DoD and each Component. For sites in the high relative risk category, the Army has the highest estimated cost, at just over $4 billion to complete. Most of the Components estimate that the highest amount of funding will go to sites in the high relative risk category. For FUDS and DLA, however, the highest funding estimates are for sites in the not required category, which includes cost for long-term monitoring. The FUDS cost-to-complete estimate in the Relative Risk Evaluation Not Required category is very large compared with the Military Departments' estimate for this category because, unlike the Military Departments and DLA, FUDS have unexploded ordnance (UXO) and BD/DR as a significant proportion of their requirements; these are not addressed by relative risk site evaluations and are not included in the other programs. Table 8 also shows relative risk cost-to-complete estimates, with totals by fiscal year instead of by Component. In the short term, all Components estimate that the highest amount of funding will go toward sites in the high relative risk category to ensure the reduction of risks to human health and the environment.

Table 7
Active Installation and FUDS Property Cost-to-Complete by Relative Risk Site Evaluation Category and Component (FY99-Complete)

Relative Risk Category	Cost-to-Complete ($000)					
	Army	Navy	Air Force	DLA	FUDS	Total
High	4,150,128	1,856,272	2,197,031	32,645	1,081,783	9,317,859
Medium	793,727	482,712	474,141	8,871	310,099	2,069,550
Low	411,733	253,092	412,423	11,864	68,934	1,158,046
Not Evaluated	41,891	93,998	63,278	13,008	919,787	1,131,962
Not Required	503,626	450,781	569,507	53,677	2,539,095	4,116,686
Total	$5,901,105	$3,136,855	$3,716,380	$120,065	$4,919,698	$17,794,103

Table 8
Active Installation and FUDS Property Cost-to-Complete by Relative Risk Site Evaluation Category and Fiscal Year for all DoD (Army, Navy, Air Force, Defense-Wide, FUDS)

Relative Risk Category	Cost-to-Complete ($000)							
	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06-Complete
High	600,632	715,256	742,747	707,698	715,471	692,260	635,218	4,508,577
Medium	104,909	93,122	90,939	81,185	75,432	76,367	99,134	1,448,462
Low	70,680	62,931	70,868	75,277	67,951	70,782	59,708	679,849
Not Evaluated	47,001	10,459	7,297	15,436	13,033	22,805	17,793	998,138
Not Required	219,697	186,136	158,485	157,783	163,783	147,592	151,567	2,945,337
Total	$1,042,919	$1,067,904	$1,070,336	$1,037,379	$1,035,670	$1,009,806	$963,420	$10,580,363

Another way of viewing DoD's cost-to-complete estimates is by cleanup phase. Where the relative risk tables (Tables 7 and 8) show how DoD plans to allocate its funding to address sites of concern first, Tables 9 and 10 show how DoD plans to distribute funding through the cleanup process. As Figure 1 showed, cleanup encompasses design, remedial action construction, and remedial action operation. Most of the remaining sites in the Environmental Restoration Program are in the cleanup phases of the process, and the funding is concentrated on these phases. As Table 9 indicates, this is the case for every Component. Also, over the short term, Table 10 shows how more environmental restoration funding is planned to go toward cleanup than toward any other phase.

Table 9
Active Installation and FUDS Property Cost-to-Complete by Phase Category and Component (FY99-Complete)

Phase Category	Cost-to-Complete ($000)					
	Army	Navy	Air Force	DLA	FUDS	Total
Analysis	287,403	403,431	346,920	1,253	566,362	1,605,369
Design	160,150	130,213	62,709	1,315	209,391	563,778
IRA	137,987	427,699	437,798	0	28,624	1,032,108
RA-C	2,986,371	1,230,675	688,435	35,101	3,411,892	8,352,474
RA-O	1,532,988	642,689	1,556,838	71,156	568,507	4,372,178
LTM	796,206	302,148	623,680	11,240	134,922	1,868,196
Total	$5,901,105	$3,136,855	$3,716,380	$120,065	$4,919,698	$17,794,103

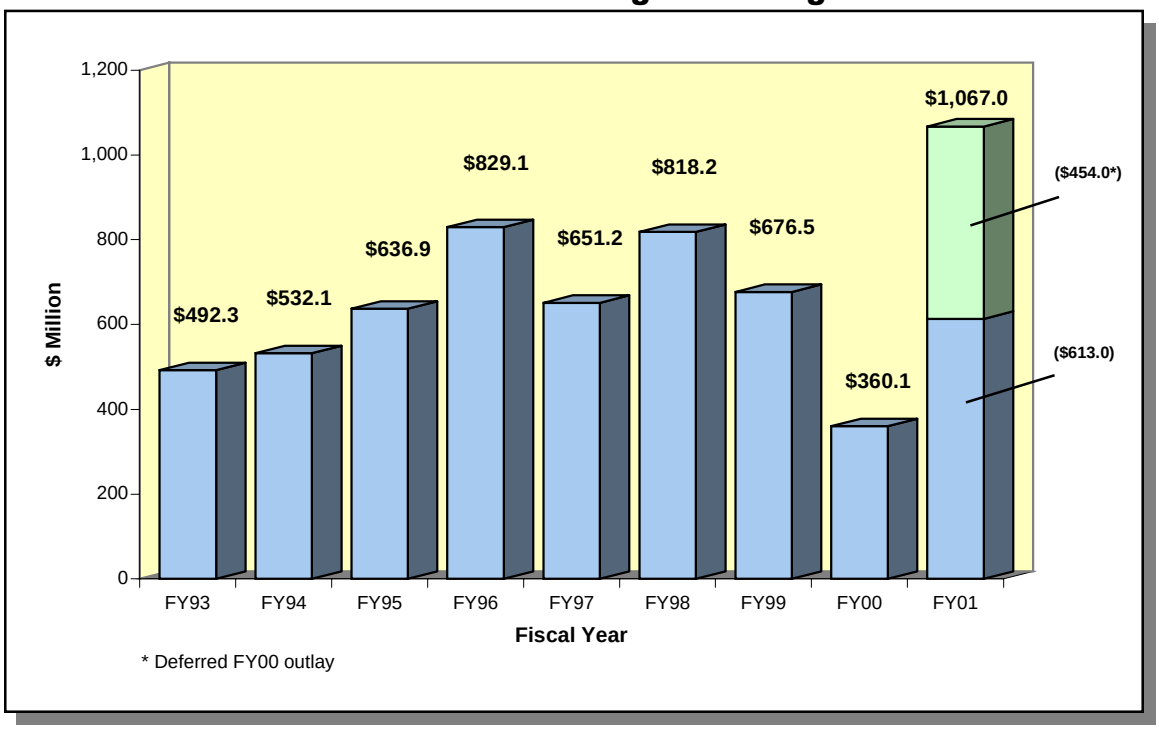
Table 10
Active Installation and FUDS Property Cost-to-Complete by Phase Category and Fiscal Year for all DoD (Army, Navy, Air Force, Defense-Wide, FUDS)

Phase Category	Cost-to-Complete ($000)							
	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06-Complete
Analysis	241,292	193,586	128,705	79,567	83,114	89,701	120,163	669,241
Design	46,706	66,425	68,383	43,586	25,299	31,850	27,188	254,341
IRA	168,964	135,660	129,170	95,908	80,614	89,335	71,615	260,842
RA-C	420,342	490,880	542,667	577,330	559,620	484,830	414,671	4,862,134
RA-O	113,245	109,119	131,627	161,699	202,057	209,299	212,332	3,246,494
LTM	52,370	72,234	69,784	79,289	84,966	104,791	117,451	1,287,311
Total	$1,042,919	$1,067,904	$1,070,336	$1,037,379	$1,035,670	$1,009,806	$963,420	$10,580,363

BRAC Account Status

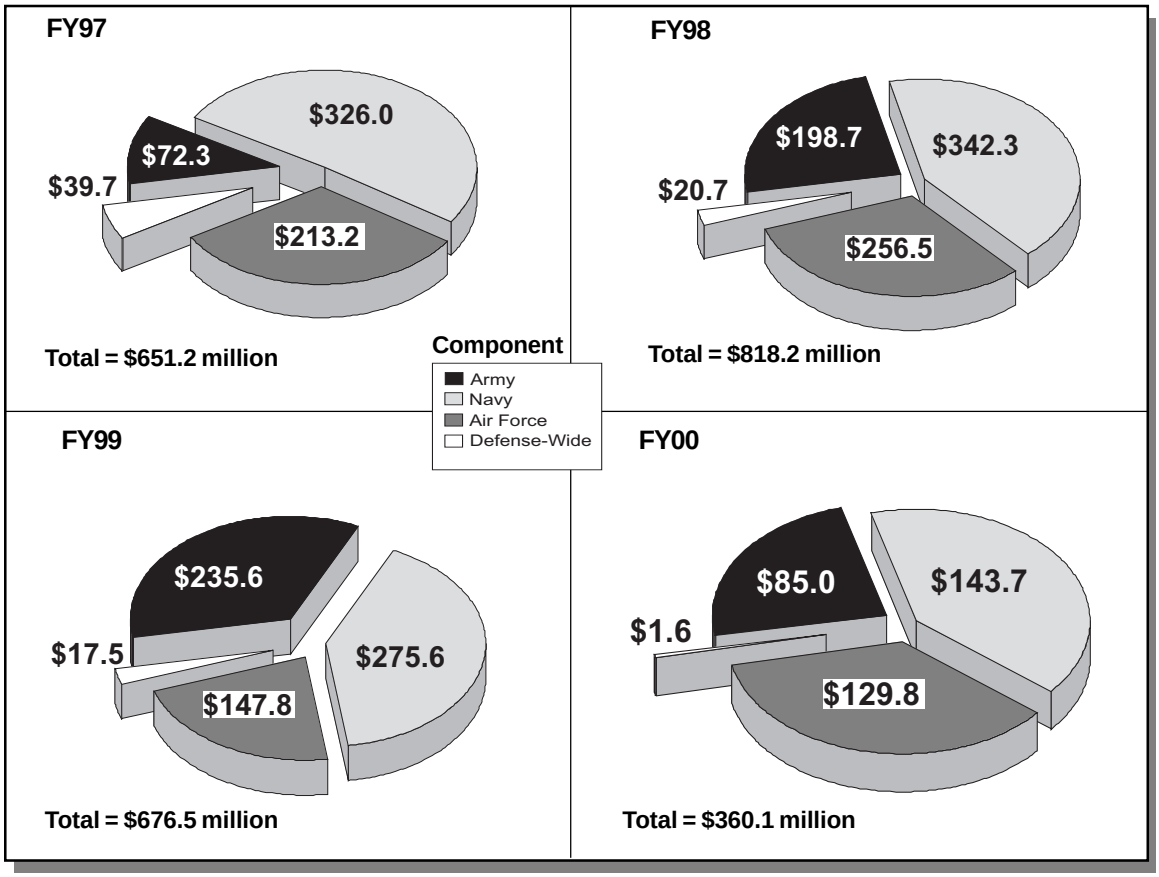
The overall BRAC account, which is part of the Department's total military construction account, funds BRAC environmental restoration efforts. The BRAC account, in addition to funding environmental requirements (restoration, compliance, and planning) funds other BRAC requirements such as BRAC-specific military construction and family housing. BRAC environmental funding has increased over the years with the addition of new installations in each of the four BRAC rounds—BRAC 1988, BRAC 1991, BRAC 1993, and BRAC 1995. The BRAC environmental funding profile in Figure 21 shows actual and projected total environmental funding allocations from FY93 through FY01. The estimated cost to complete for the remaining environmental restoration activities at BRAC sites after FY01 is $1.9 billion.

Figure 21
BRAC Environmental Budget Funding Profile



The BRAC environmental funding profile in Figure 22 displays the actual and projected total BRAC environmental funding for each Component. BRAC funding in FY98 increased substantially, almost 20 percent, from FY97 levels. The year-to-year environmental funding fluctuations within the BRAC account occur due to the addition of new installations with each BRAC round. In addition, as each round progresses through environmental planning and site identification, DoD must balance environmental requirements with other BRAC requirements (i.e., BRAC military construction, family housing, and program management and support). The funding level in FY00, along with the advance appropriation request for FY01 is $814 million.

Figure 22
BRAC Environmental Funding Profile for OSD and Components
(in millions of dollars)



The proposed President's Budget for FY 2000 specifies this one-time change in DoD's business practices and contracting philosophy to incrementally fund environmental restoration work in FY00 and FY01. The President's Budget contains a proposal that requests $360.1 million in FY00 to cover actual expenses and an advance appropriation of $454.0 million in FY01 to fund all projects that will begin in FY00. This business practice change also affects the entire military construction (MilCon) and family housing construction appropriations. Implementation will require incremental funding for specific contracts. Currently, the Research, Development, Test & Evaluation account incrementally funds contracts and will serve as a model for implementing cleanup contracts.

Incremental funding of projects means that obligations (contract or task awards) would coincide with the work actually performed and billed in FY00. Termination liability funding will also be obligated in FY00. Previously, all appropriations included total funding for entire projects that usually spanned more than one fiscal year.

The funds requested in the FY 2000 proposed President's budget are adequate to fund all BRAC environmental cleanup work and keep projects on schedule. It is important to remember that the BRAC environmental program represents a small portion of DoD's overall military construction budget and that this measure was not intended to single out BRAC environmental programs. DoD remains fully committed to meeting the President's fast-track cleanup initiative and to adequately funding BRAC environmental cleanup work.

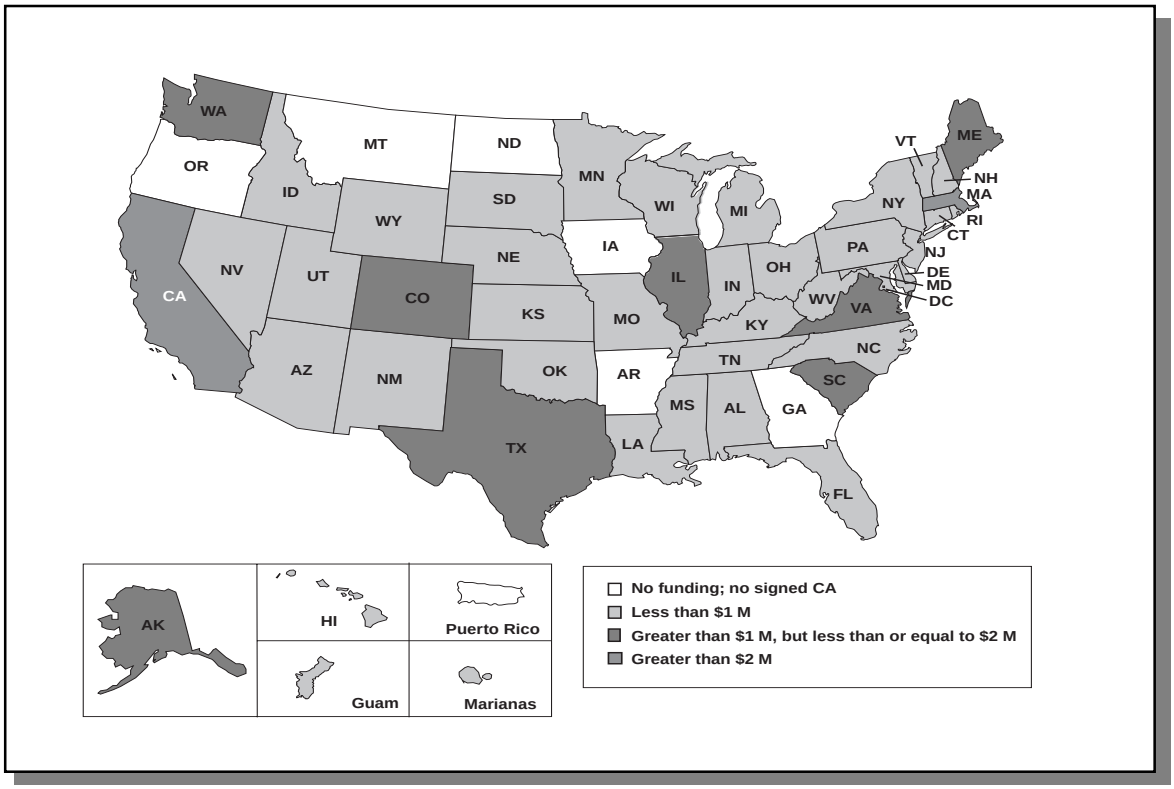
Support for States and Territories to Expedite Regulatory Review

The Defense and State Memorandum of Agreement (DSMOA) is a formal agreement used to foster partnerships between states and DoD. The Superfund Amendments and Reauthorization Act, enacted in 1986, established the DSMOA program to reimburse states and territories for reviewing investigation and cleanup efforts at DoD facilities. States have helped DoD avoid millions of dollars in cleanup costs by suggesting innovative cleanup methods, focusing the amount of sampling or analysis required, reviewing documents expeditiously, and openly exchanging information on transferring technologies. A DSMOA represents a commitment between DoD and a state or territory, but DoD does not transfer any funds until both the state and DoD sign a cooperative agreement (CA). The cooperative agreement provides a specific 2-year plan for restoration activities in the designated state or territory, provides a projection of activities for the following 4 years, and establishes a process for payment. At this time, 50 of the 56 possible states, territories, and the District of Columbia have signed DSMOAs, and 45 have entered into cooperative agreements with DoD. DoD expended approximately $48 million for the DSMOA program in FY98, as shown in Figure 23. Appendix C provides more information concerning specific DSMOA and CA programs.

The Army Corps of Engineers, the DoD executor of the DSMOA/CA program, redesigned the CA process in FY97 to address two major issues: the need for consistency in preparing the CA application and devolvement of DERA into several accounts. The goal of the new CA process is to standardize and simplify procedures so that the DSMOA program can operate more efficiently and effectively. FY98 was the first year under the new process. Figure 24 shows the six steps in the process.

State services that qualify for reimbursement through CAs include, but are not limited to, technical review, comments, and recommendations on documents or data; identification and explanation of state or territorial requirements; site visits; participation in public education; and community involvement activities. This includes meetings of groups such as technical review committees (TRCs) and Restoration Advisory Boards (RABs); activities associated with the preparation and

Figure 23
DSMOA Reimbursements in FY98

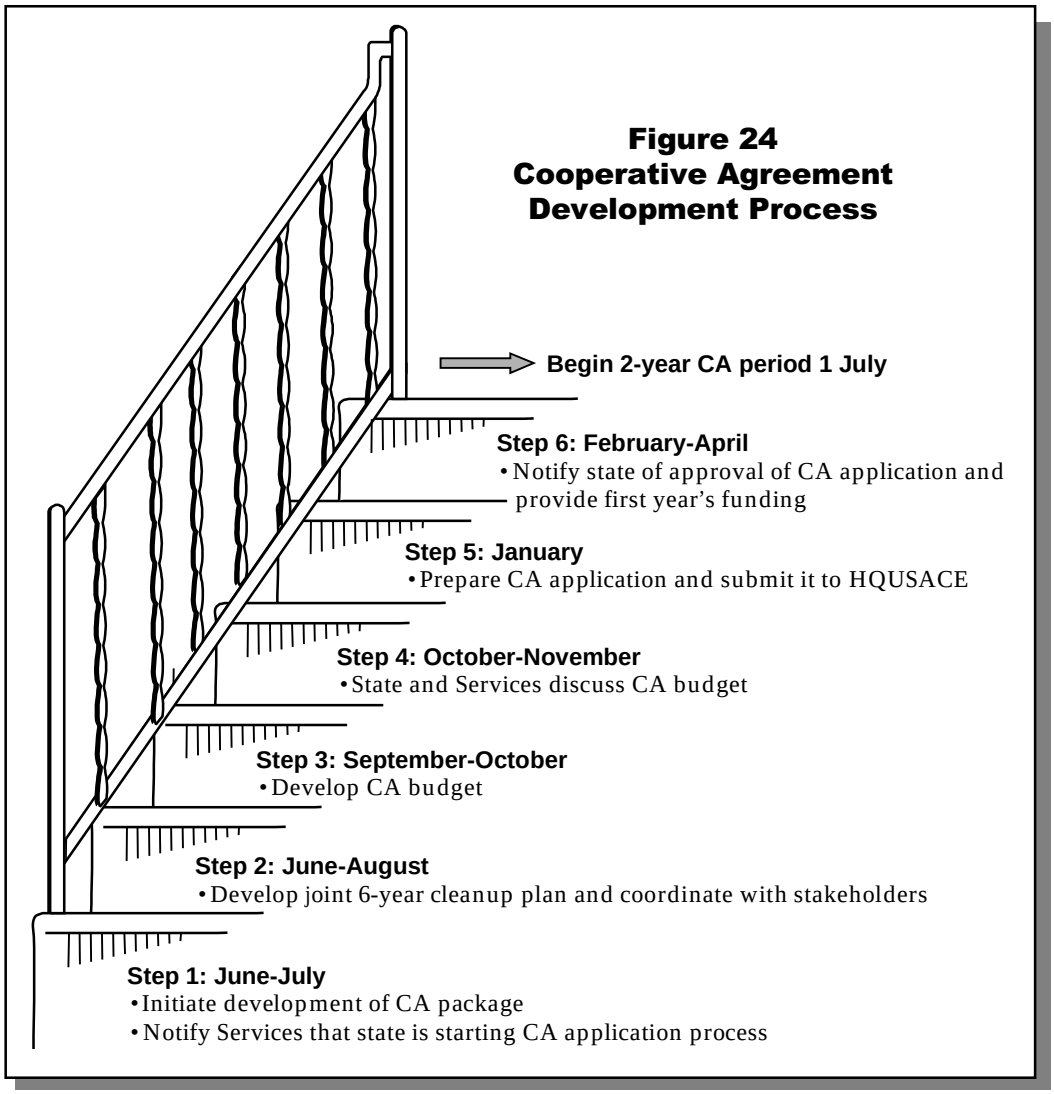


administration of the DSMOA / CA agreement; and other state or territorial services enumerated in installation-specific agreements.

The DSMOA program applies to all active and closing installations, beginning at the site identification stage and continuing through site closeout. The DSMOA program also covers FUDS, if DoD determines the site is eligible for ER funding. The *Guide to the Cooperative Agreement Process* provides more detailed information about the requirements and restrictions of the program.

WorldWideWeb

DSMOA Home Page
http://www.environmental.usace.army.mil/environmental/access/dsmoa.html



Assessing the Health Impact of Contamination

The Agency for Toxic Substances and Disease Registry (ATSDR), a branch of the U.S. Public Health Service, is charged under CERCLA with assessing the presence and nature of health hazards at specific NPL sites and in response to citizens' petitions. The agency's efforts help prevent or reduce further human exposure to hazards and the illnesses that result from such exposure, and expand knowledge about the health effects caused by exposure to hazardous substances. As part of its congressionally mandated duties under CERCLA, ATSDR independently performs public health assessments (PHAs) at DoD sites that are on the NPL or that are the subject of a citizen's petition. If additional information becomes available to ATSDR that changes the PHA presented in the final release document, ATSDR issues an addendum to the PHA in

the form of technical assistance, a health consultation, a site review and update, or a PHA addendum. In accordance with the "Guidelines for the Coordination of CERCLA Activities between ATSDR and DOD," ATSDR reviews DoD response actions to ATSDR's recommendations to ensure the protection of public health through the PHA process. There are three stages in the assessment process:

- Initial Release Document. Provides DoD, state and federal regulatory agencies, and state and local public health departments with the opportunity to ensure that the most accurate and relevant information about the site is available to ATSDR.
- Public Comment Release. Provides a formal mechanism through which the community can provide additional comments and express its concerns, thereby furthering stakeholder involvement in the process.
- Final Release Document. Responds to citizens' concerns and to comments by DoD, the regulatory agencies, public health departments, and the community. This document is the final independent public health assessment of the site by ATSDR.

ATSDR establishes a Community Assistance Panel (CAP) to provide information to the community on complex PHAs and ongoing public health actions, especially health studies. The CAP acts as a liaison to provide information to ATSDR about community concerns and to provide feedback to the community on health-related actions completed by ATSDR, the state, the local health department, or DoD. A CAP normally consists of 12 to 15 community members who have an understanding and knowledge of the site, contaminants of concern, and the community health concerns. Currently, there is one CAP associated with a DoD site Massachusetts Military Reservation (MMR).

Table 11, below, summarizes the PHAs completed in FY98 (by the number of documents in each stage) at DoD installations. In addition, ATSDR completed two health studies, one at MMR and one at Camp Lejeune, and five DoD-specific toxicological profiles.

Table 11
Summary of FY98 Public Health Assessment

Stage of Assessment	Army	Navy	Air Force	DLA	FUDS	Total
Initial Release Document	2	5	13	1	1	23
Public Comment Release	3	5	12	2	2	24
Final Release Document	4	3	8	2	2	18
All Stages, Total Number	9	13	33	5	5	65

In FY98, ATSDR completed more PHA documents in one year than ever before. The number of completed documents was equal to the number of documents completed in the previous three years combined. DoD and ATSDR partnered to streamline the

document review process and decrease review times. In addition, ATSDR used its state cooperative agreements and contract support to augment its staff and improve productivity.

* * * * *

Perhaps more than any other element of the restoration program, DoD's efforts to report meaningfully on our progress show how we build trust by doing the right thing. Congress requires an annual report, but we do more because we believe we should. Making sure we use resources responsibly and making wise decisions about priorities mean the program receives thorough review at every level within DoD.

Accurately measuring performance and progress toward program goals is critical: data collection must ensure that results are meaningful, and reliable findings can indicate a need to change what data are collected. The Components strive constantly to perfect and refine their data collection systems, and OSD and the Components work together to analyze that collected information and use it to manage the program effectively.